



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER AND ENVIRONMENTAL HEALTH SECTION
WATER BUREAU**

**Permit Application for Noncommunity Public Water Supply Systems
Construction-Alteration-Addition or Improvement
Required Under Authority of Act 1976 PA 399, as amended**

County Health Department Name, Street Address, City, State & zip code

Plan Review Submitted for Arsenic Treatment Type: Reverse Osmosis

Facility Name _____
Street Address _____
City _____ State _____ Zip _____
Public Water Supply System Number (WSSN): _____ - _____

Facility Owner

Name _____ Ph. ____/____/____
Address _____
City _____ State _____ Zip _____

Treatment System Designer

Name _____ Co. _____ Ph. ____/____/____
Address _____
City _____ State _____ Zip _____

The following information must be included with your plan submittal:

Type of Membrane Filter -

Filtration rate (permeate water) -

Discharge in GPM (concentrate) -

Operating pressure and system controls -

Holding capacity of permeate water storage tank -

Location and approval of backwash discharge -

Arsenic concentration in concentrate water -
Total population served -
Number of service connections -
Number of point of use outlets -
Location of point of use outlets -
Peak demand of water system in gpm -

Other Treatment

Description and basis of design for other treatment applied such as softening, disinfection, iron removal, etc.

Water Quality (Untreated)

Conductivity _____ (mg/l)	Iron _____ (mg/l)	Silica _____ (mg/l)
Nitrates _____ (mg/l)	Manganese _____ (mg/l)	Phosphate _____ (mg/l)
Sulfates _____ (mg/l)	Total Hardness _____ (mg/l)	Sodium _____ (mg/l)
Sulfides _____ (mg/l)	Total Arsenic _____ (mg/l)	pH _____ (mg/l)
Chlorides _____ (mg/l)	Arsenic III _____ (mg/l)	Other _____ (mg/l)

Plans & Specifications

- 1) Include with the proposal a piping schematic identifying:
 - a. all piping
 - b. valves
 - c. gauges
 - d. meters
 - e. sampling locations
 - f. concentrate discharge/receiving system
 - g. mechanical warning alarm

Operation & Maintenance

- 1) Include with the proposal an operation manual Including:
 - a. Routine operation and maintenance activities
 - b. Troubleshooting guide
 - c. Permanent tags/labels for piping, valves, gauges, sample taps, key components
 - d. Critical factors affecting expected lifespan of membrane filter

Certified Operator Identify an operator certified at or above the D5 level (limited treatment)

Operator Name	Certi. Number / Level

Arsenic Testing Manufacturer's literature, operation and maintenance manual and test kit information are to be provided. These materials are to be made available on-site to the operator.

Test Kit Manufacturer	Model Number	Range of Detection	Degree of Accuracy

Operation Report Monthly operation report (attached) is to be submitted by the certified operator.

Other relevant Information

Alternate Source If another approved water source is available (by connection or drilling a new well) that source shall be used in lieu of treating a source that exceeds drinking water standards

Distance and name of nearest municipal water system:

Is connection to municipal water possible? Yes _____ No _____

Third Party Standards Equipment, materials, and additives in contact with potable water must meet American National Standards Institute/National Sanitation Foundation (ANSI/NSF) Standards 60 and 61.

- 1) Provide ANSI/NSF listing if any “Drinking Water Treatment Chemicals are involved in treatment system.
- 2) Provide ANSI/NSF certification listing for “Drinking Water Treatment Units”. Standards 42 Drinking Water Treatment Units - Aesthetics, 44 Residential Cation Exchange Water Softeners, 53 Drinking Water Treatment Units – Health Effects, 55 Ultraviolet Microbiological Water Treatment Systems, 58 Reverse Osmosis Drinking Water Treatment Systems and 62 Drinking Water Distillation System).
- 3) Provide ANSI/NSF product listing for “Drinking Water System Components”. (Standard 61)

Concentrate Discharge Approval is required for disposal of concentrate waste water. Requirements are dependent on the type of disposal and waste water to be discharged. Identification of the waste receiving systems, approval for discharge and characterization of the backwash water will be required for approval to install an arsenic removal system on a public water supply.

Backwash water will be discharged to: Municipal sewer _____,

Septic tank/drainfield _____, Storm sewer _____, Lagoon _____,

Other _____, if other describe location:

Provide a copy of the permit application and plans and specifications to the local health department and:

Department of Environmental Quality
Noncommunity Unit
Drinking Water and Environmental Health Section
Water Bureau
525 W Allegan Street
P.O. Box 30273
Lansing, Michigan 48909-7773

Michigan Department of Environmental Quality
Drinking Water and Environmental Health Section
Water Bureau

Arsenic Treatment Monthly Operation Report – Reverse Osmosis

Facility Name: _____ WSSN: _____

Certified Operator: _____ # _____ Month/Year: ____/____

Chemical(s) Added: _____ Manufacturer: _____

[illegible]